

Climatological Data for March, 1910.
DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

TEMPERATURE.

March, 1910, will long be remembered as being the warmest and driest month in the history of the upper Mississippi Valley. It gave a much larger percentage of sunshine, fewer cloudy days, less wind movement, the least number of days with an appreciable amount of precipitation, the least number of days with freezing temperature, and less snowfall than any other March on record. The mean monthly temperature was above the normal over all the district, and the daily means were above the normal at many stations in the district, on every day of the month.

In North Dakota, abnormally high temperature characterized the weather during the month. The mean temperature was 41.3° , or 20.3° above the normal. This was the highest temperature for any March in the climatological history of the State. The former high record was in 1905, when the average was 32.5° . The first day was the coldest, and the 3-day period from the 21st to the 23d, inclusive, was the hottest. During the latter period the maximum temperatures ranged from 80° to 90° .

In Minnesota the month was remarkably warm, dry, and sunshiny. In fact, it was by far the warmest, driest, and clearest March on record. The mean temperature ranged from about 44° in the southern counties, to about 36° on the international boundary. The excess in temperature ranged from 14° in the east, to 18° above the normal in the western part of the State. The 23d was the warmest day, and the coldest days occurred between the 7th and 9th. The temperatures on the 23d were the highest ever recorded in the State in March, as shown by various records, extending back 10 to 88 years.

The month of March, 1910, will be long remembered as a record breaker in Wisconsin. The temperature, over the Mississippi drainage area, averaged about 15° above the normal. The monthly maximum temperatures ranged from 76° in Barron and Price counties, to 86° in Crawford County. No previous March has equalled these records since the establishment of the Weather Bureau in 1871.

As shown by records extending back 10 to 71 years, the month was the warmest March on record in Iowa. It gave the largest amount of sunshine, and the least number of days with freezing temperature in the history of the State. The temperature was uniformly high and above the normal every day of the month, with the warmest period between the 22d and the 29th. The maximum occurred generally on the 23d, and ranged from 80° in the northern, to 90° in the southern counties. The monthly minimum temperatures occurred on various dates between the 1st and the 15th.

In Missouri the month was the warmest and driest that has occurred during the period covered by authentic climatological records. The temperature was continuously above the normal, except on the 9th, 10th, 13th, and 15th; the average daily excess amounted to 13° . There were no freezing temperatures after about the middle of the month and during the last decade the day temperatures were about 90° .

In Indiana the weather for the month was remarkable for its unusual warmth and dryness, excess of sunshine, and the absence of high winds and destructive storms. The mean temperature was probably the highest that has ever been recorded in this section of the State, during the month of March, since the establishment of the Weather Bureau. The temperature was continuously above the normal throughout the month, except during a brief cool spell which prevailed on the 14th and 15th; the minimum for the month being generally recorded on the latter date. The last freezing temperature occurred on the

23d, from which date until the close of the month, unseasonably warm weather prevailed. Maximum temperatures in excess of 80° were recorded at all stations on the 24th, 27th, and 28th.

The mean temperature in Illinois was 51.0° or 11.6° above the normal. The average number of days with minimum temperatures of 32° or lower, was 10. The monthly mean exceeds all former records for March.

The monthly mean temperature for the district, as shown by the records of 298 stations, was 45.9° , which is 14.6° above the normal. The highest monthly mean was 59.6° at Carbondale, Ill., and the lowest 34.5° , at Pembina, N. Dak. The highest temperature reported was 93° at Carbondale and Mascoutah, Ill., on the 23d, and the lowest, -7° at Long Lake, Wis., on the 9th.

PRECIPITATION.

There was a marked deficiency of precipitation in all parts of the district, except over portions of North Dakota and the extreme northwestern counties of Minnesota. There was not only a deficiency of precipitation, but the amounts of snowfall were much less than usual during the month of March, and there was practically no snowfall south of Minnesota and Wisconsin.

While there was a slight excess of precipitation in North Dakota the first 3 weeks of the month were dry and only scattered precipitation in small amounts occurred, but during the last week it was more general and the amounts were larger. Nearly all of the precipitation was in the form of rain.

In Minnesota the precipitation was practically inappreciable over the southern half of the State, and was below the normal in all but the extreme northwestern corner, where some of the monthly amounts were in excess of an inch. The greatest 24-hour precipitation occurred generally on the 29th and 30th. On those dates there were thunderstorms, confined mainly to the western and northern counties.

The average monthly precipitation in Wisconsin, was only 0.10 inch, which is less than for any other March on record. The amount of clear weather and the percentage of sunshine were abnormally large, and the lack of high winds and storms contributed to making the weather ideal for comfort. At the beginning of the month there was from 1 foot to 2 feet of snow on the ground, but this melted steadily and had almost disappeared by the 15th.

There was no snowfall in excess of a trace at any station in Iowa, and the rainfall was abnormally light in all sections of the State. There were 2 stations that had no precipitation, and 14 that had only a trace. Rainfall was practically nil until the 26th, and the only days on which showers were at all general were the 26th and 29th. On March 1 there were 6 to 8 inches of snow on the ground in the northern part of the State, but it had all melted by the 9th, and as there was practically no frost in the ground, the soil dried rapidly.

The precipitation was noticeably deficient at all stations in Missouri; the total monthly fall being only about 14 per cent of the normal. There were 22 clear days, and only 3 wholly cloudy days.

In Indiana the month was the driest March on record. Light rain fell on the 1st, 20th, 30th, and 31st. A few local showers occurred on other dates, but the amounts of rainfall were generally inappreciable. Only 1 station reported a measurable amount of snowfall, although a trace was recorded at all of the remaining stations of this watershed.

In Illinois the average precipitation was 0.26 inch, which is 2.69 inches below the normal, and the least average on record. The average snowfall was a trace, and the average number of

rainy days was 2. The previous low record occurred in 1885, when the average for the State was about one-half inch. The wettest March on record was in 1898, when the average was more than 7.00 inches.

The average precipitation for the district, as shown by the records of 311 stations, was 0.32 inch, which is 1.74 inches below the normal. The greatest amount, 2.37 inches, occurred at Donnybrook, N. Dak., while at 2 stations in Iowa, there was no precipitation. Measureable amounts of snow fell at only 54 stations in the district; the average amount being 0.2 inch, and the greatest total snowfall was 7.00 inches at Hallock, Minn.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 21; partly cloudy, 7, and cloudy, 3. The duration of sunshine was much above the normal.

WIND.

Southwest winds prevailed. The highest velocity reported was 60 miles per hour, from the northwest, at Devils Lake, N. Dak., on the 6th.

MISCELLANEOUS.

The abnormally warm and dry weather caused the soil to dry rapidly and as a result farmers were doing their spring field work much earlier than usual. The remainder of last year's corn crop was gathered in Iowa, and practically all of the small grain was seeded in the southern, and a large percentage of it, in the northern sections. Fall grain and grasses were generally in good condition, although there was some loss by winter killing and droughty conditions during March in Illinois, Missouri, and southern Iowa. Before the end of the month spring sown grain was up, and showed a good stand in southern sections; much of the corn ground had been prepared; pastures, meadows, and many of the forest trees were green or rapidly becoming so, in southern and middle sections. All fruit trees were in bloom in Missouri and southern Illinois, and plum trees were in bloom as far north as northern Iowa. The season was about a month in advance of the normal.

The rivers of the district were at a normal stage for the season. Navigation opened on the Mississippi River north of St. Louis, Mo., on March 1. Ice moved out of the Mississippi River at Dubuque, Iowa, about the middle of the month, and the ice broke up in the smaller rivers in Iowa, from the 1st in the southern, to the 10th or 12th in the northern sections. The northern lakes in Minnesota opened on the 23d, which is the earliest on record. The Red River of the North broke up between the 23d and 28th; 20 to 25 days earlier than usual. The thickness of the ice ranged from 24 to 30 inches, but it passed out quietly, as it did in all of the rivers of the district.

DRAINAGE AND ENGINEERING NOTES.

Preliminary arrangements are being made for a big drainage project in Muscatine and Louisa counties, Iowa. It is intended to drain 28 sections of land in Louisa, and 38 sections in Muscatine County, at a cost of \$100,000.00 which will include the cost of a pumping station.

The preliminary survey for determining the practicability of making the Des Moines River navigable from its mouth to Des Moines, Iowa, was begun about the middle of the month. The work is being done under the supervision of an engineer of the United States Army.

The Iowa State Drainage, Waterways and Conservation Commission is contemplating the erection of several dams on the upper Des Moines River and its tributaries in northern Iowa, for the purpose of storage during periods of high water, and to enable them to increase the flow in the lower river during the periods of low water. Some preliminary surveys have been made with the view of finding suitable location for such dams.

One of the largest drainage projects yet undertaken in the upper Mississippi Valley is being conducted under the joint control of Beltrami and Marshall counties, Minn. The system when completed, will drain 600,000 acres, and it will have cost \$600,000.00. The aggregate length of the mains and laterals will be 553 miles, and the contract calls for the removal of 5,000,000 cubic yards of dirt, which is to be used in constructing a roadway alongside the ditch right of way. Of the 600,000 acres subject to the drainage scheme about 250,000 acres are Government land, subject to homestead entry, lying in what was once the Red Lake Indian Reservation. It is said that this is the first time in the history of Minnesota that the Federal Government has associated with the State in the drainage of any considerable tract of land for agricultural and reclamation purposes. The cost of the drainage will eventually be assessed to those who homestead the land.

The Boards of Supervisors of Wright and Hamilton counties, Iowa, in joint session, have called for sealed bids, for the construction of what is known as the Whister Drainage Ditch in Hamilton County and Joint Ditch No. 48, in Wright County.

The Board of Supervisors of Wright County, Iowa, has advertised for sealed bids for drainage work to be done during the year 1910: Drain No. 39, located near Clarion and divided into 9 sections.

Drain No. 40, located in Blaine Township, and divided into 7 sections.

Drain No. 41, located in Wall, Lake, and Vernon townships, and divided into 8 sections.

Drain No. 42, located in Grant and Lake townships and, divided into 3 sections.

Drain No. 43, located near Rowan, and divided into 19 sections.

TABLE 1.—Climatological data for March, 1910. District No. 5, Upper Mississippi Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, 0.1 inch or more.	Number of clear days.	Number of partly cloudy days.			
<i>North Dakota.</i>																				
Amenia.	Cass.	954	12	39.0	+17.1	76	21	-5	1	52	1.42	+0.74	1.27	0.0	2	14	11	6	nw.	C. E. Wood.
Bottineau.	Bottineau.	1,638	14	37.0	+11.2	71	22	5	1	42	0.72	-0.32	0.48	0.0	4	13	10	8	nw.	J. A. Kemp.
Cando.	Towner.	1,483	8	40.4	+20.3	87	23	8	1	49	0.35	-0.09	0.28	0.0	25	5	4	2	w.	E. T. Judd.
Crosby.	Williams.			40.2		81	22	-1	1	40	1.79	-0.67	1.29	0.0	5	5	5	4	sw.	H. C. Kaschau.
Devil's Lake.	Ramsey.	1,482	4	39.6	+21.1	85	23	11	7	43	0.34	-0.67	0.25	0.2	5	11	15	5	w.	U. S. Weather Bureau.
Donnybrook.	Ward.	1,760	10	42.5	+21.4	81	22	8	1	48	2.37	+1.27	1.40	0.0	3	19	5	7	sw.	C. J. De Vore.
Dunseith.	Rolette.			38.9	+21.9	80	23	6	1†	50	1.13	+0.28	0.75	T.	2	25	5	4	w.	L. H. Trowbridge.
Edmore.	Ramsey.	1,524	4	40.6	+20.4	90	23	10	7	45	0.00	-0.00	0.0	0.0	0	23	5	3	nw.	H. R. Aslakson.
Forman.	Sargent.	1,249	15	46.2	+23.0	84	24	11	1	48	0.66	-0.47	0.33	0.0	2	14	9	8	nw.	A. Maltby.
Grafton.	Walsh.	827	12																	H. La Moure.
Granville.	McHenry.	1,504	3	42.2		82	23	11	7	47	0.96	-0.33	0.0	0.0	3	15	12	1		W. A. Christiansen.
Hannah.	Cavalier.	1,568	4	39.6		82	23	8	7	42	0.47	-0.36	T.	2	21	6	4	s.	J. Moffatt.	
Hansboro.	Towner.			38.0		82	23	6	7	39	1.21	-1.10	T.	2	20	5	6	nw.	Geo. Dale.	
Hillsboro.	Traill.	901	4	42.1		78	23	13	9	41	0.58	-0.30	0.0	0.0	3	16	8	7	nw.	M. H. Norman.
Lakota.	Nelson.	1,519	3	38.6		85	23	12	7	37	0.96	-0.50	0.5	0.5	3	16	11	4	nw.	C. R. Pettes.
Langdon.	Cavalier.	1,615	14	38.0		77	21	5	9	56	1.57	-1.09	T.	5	13	3	15	w.	J. Woolner.	
Larimore.	Grand Forks.	1,134	14	38.9	+19.4	85	23	9	9	40	0.40	-0.54	0.40	4.0	2	17	12	2	w.	S. R. Britton.
Lisbon.	Ransom.	1,061	5	44.2		83	20	6	2	46	1.05	-0.60	0.0	0.0	2	21	4	6	nw.	H. K. Adams.
McKinney.	Ward.	1,640	15	40.3	+23.3	80	22	7	1	55	2.14	+1.31	1.36	0.0	4	16	12	3	nw.	N. P. Swenson.
Manfred.	Wells.	1,605	8	40.7		84	23	9	6	42	0.36	-0.26	0.0	0.0	4	18	9	4	sw.	P. B. Anderson.
Mayville.	Traill.	975	14	41.4	+10.5	81	23	11	8	35	1.04	+0.26	0.85	0.0	2	18	9	4	nw.	M. N. Pope.
Minot.	Ward.	1,557	11	42.6	+25.2	80	22	11	1†	46	1.37	+0.47	0.51	0.0	4	23	3	5	w.	J. J. Bates.
Minto.	Walsh.	820	16	41.8	+22.6	81	23	10	9	50	1.15	+0.23	0.85	0.0	3	12	18	1	nw.	S. S. Marsh.
Oriska.	Barnes.	1,270	4	42.4		84	23	13	7	47	1.16	-0.87	1.0	0.0	2	12	18	1	w.	W. E. Williams.
Park River.	Walsh.	898	6	40.1		84 ^a	23	10	9	44	0.85	-0.40	0.3	0.0	4	20	9	2		A. Heyward.
Pembina.	Pembina.	789	11	34.5	+16.8	72	18	8	7	39	0.95	-0.16	0.45	4.0	3	14	7	10	w.	C. W. Shumaker.
Portal.	Ward.	1,054	15																M. S. Davis.	
Power.	Richland.	1,020	17	40.7	+18.5	82	21	10	8	57	0.53	-0.29	0.31	0.0	3	23	4	4	nw.	J. A. Power.
Pratt.	McHenry.		5	40.8		78	23	5	1	49	2.18	-1.40	0.0	0.0	1	23	4	4	nw.	C. H. Butts.
University.	Grand Forks.	830	18	44.0	+26.3	83	20	9	1	51	1.22	+0.45	1.17	T.	2	21	3	7	nw.	W. R. Holgate.
Wahpeton.	Richland.	962	18	39.6	+12.9	80	23	10	1	40	0.16	-0.95	0.16	T.	1	21	3	7	nw.	E. G. Burch.
Walhalla.	Pembina.	966	5																C. H. Lee.	
Westhope.	Bottineau.		3	39.0	+22.1	83	23	9	1	55	0.94	+0.42	0.56	0.0	2	20	9	2	nw.	J. D. Currie.
Willow City.	do.	1,471	16	39.0															M. A. Ostby.	
<i>Minnesota.</i>																				
Albert Lea.	Freeborn.	1,229	20	45.6	+17.1	84	23	20	8†	41	T.	-1.45	T.	0.0	0	16	13	2	nw.	Edward Carey.
Alexandria.	Douglas.	1,391	40.2	+17.2		79	23	12	2†	41	0.07	-1.04	0.04	0.0	2	20	5	7	nw.	P. O. Unumb.
Angus.	Polk.	370	8	38.3		76	23	7	9	40	0.76	-0.47	T.	3	19	7	5	n.	John Nadvoronik.	
Bagley.	Clearwater.		4	39.1		80	23	2	9	44	0.59	-0.34	T.	5	18	9	4	sw.	Jens Nelson.	
Baudette.	Beltrami.	1,084	1	36.1		76	23	1	2†	42	0.96	-0.44	T.	3	21	4	6	nw.	Franz W. Schmidt.	
Beardsley.	Bigstone.	1,090	17	44.6	+18.3	82	23	20	7†	45	0.64	-1.34	0.06	0.0	1	17	10	10	nw.	Roy A. Smith.
Beaufieu.	Mahnomen.	1,200	8	38.2		68 ^a	18	8	9	36	0.55	-0.20	1.0	0.0	5	15	9	7	sw.	Dr. L. A. Parkinson.
Bird Island.	Renville.	1,039	20	44.4	+17.2	85	23	18	9	46	1.13	-0.92	0.08	T.	2	21	6	4	nw.	Dr. F. L. Puffer.
Caledonia.	Houston.	1,179	17	43.2	+13.5	78	23†	10	1	37	0.00	-1.99	0.00	0.0	0	23	2	6	sw.	W. D. Belden.
Campbell.	Wilkin.	984	4	40.8		81	23	11	8	46	0.35	-0.20	0.20	0.0	3	20	2	9	nw.	J. T. Neiss.
Cass Lake.	Cass.	1,300	4								0.15	-0.10	0.5	0.0						C. W. Burns.
Collegeville.	Stearns.	1,282	17	43.9	+17.3	81	23	13	7	34	0.11	-1.09	0.11	0.0	1	21	3	7	sw.	Fridolin Trembleur.
Crookston.	Polk.	363	20	37.5	+17.1	73	23	10	7	38	0.64	-0.54	0.29	0.0	4	17	3	11	s.	A. G. Andersen.
Detroit.	Becker.	1,364	14	38.2	+17.3	78	23	12	8	44	0.18	-0.78	0.08	2.0	3	21	4	6	nw.	George W. Peoples.
Fairmont (near).	Martin.	1,240	23	44.8	+16.8	77	23†	23	8	32	0.09	-1.46	0.06	T.	2	21	9	1	nw.	W. F. Wherland.
Faribault.	Rice.	1,003	13	43.8	+13.5	81	23	18	7†	37	0.25	-0.99	0.21	0.5	3	23	7	1	nw.	Dr. A. R. T. Wylie.
Farmington.	Dakota.	902	22	43.6	+16.0	82	23	17	7	41	0.04	-1.93	0.04	T.	1	18	7	6	sw.	D. F. Akin.
Fergus Falls.	Ottertail.	1,210	18	41.7	+17.0	77	23	14	7†	36	0.20	-0.84	0.20	0.3	1	23	6	2	nw.	Chas. E. Kissenger.
Fort Ripley.	Crow Wing.	1,136	39.6			84	23	4	9	50	0.10	-0.99	0.10	0.0	1	25	5	11	s.	J. T. Tucker.
Fosston.	Polk.	1,289	1	39.4		82	23	10	7	54	1.77	-1.35	0.5	4	11	17	3	sw.	O. N. Hem.	
Glencoe.	McLeod.	1,000	14	44.8	+17.0	82	23	18	7	40	T.	-0.92	T.	0	20	10	1	sw.	C. G. Selvig.	
Grand Meadow.	Mower.	1,338	23	44.5	+17.3	81	23	18	8	41	T.	-1.91	T.	0	22	8	1	sw.	C. F. Greening.	
Halloock.	Kittson.	815	11	36.8	+18.2	77	23	3	10	42	1.80	+0.48	1.00	7.0	4	24	9	7	n.	D. A. Robertson.
Halstad.	Norman.	870	4	39.0		78	23	10	9	44	0.84	-0.45	0.45	0.0	4	22	7	2	s.	Aaron G. Holstrom.
Hinckley.	Pine.	1,500	5	41.1		79	23	11	9	43	T.	0.0	0	5	20	6	6	s.	W. R. Newman.	
International Falls.	Koochiching.	1,112	2																Ross Roe.	
Kelliher.	Beltrami.		3	35.7		78 ^a	23	1†	9	37	0.04	-0.04	0.08	0.0	1	25	3	3	sw.	A. Gilmour.
Lake Crystal.	Blue Earth.		3	44.3		82	23	20	2	42	0.01	-0.01	0.01	0.0	1	25	3	3	s.	W. P. Cobb.
Leech Lake Dam.	Cass.	1,301	22	37.8	+17.2	79	23	7	8	42	0.29	-1.03	0.18	0.0	4	7	19	5	s.	Hans Olson.
Little Falls.	Morrison.	1,117	4	42.3		83	23	8	1	38	0.20	-0.13	0.13	0.0	2	19	12	0	nw.	Maurice Coleman.
Little Fork.	Koochiching.					78 ^a	23	15	7	43									O. C. Olson.	
Long Prairie.	Todd.	1,299	18	42.8	+18.2	83	23	7	9	45	0.13	-1.09	0.13	T.	1	26	5	6	sw.	R. M. Sheets.
Lynd (2).	Lyon.	1,175	18	45.5	+18.1	85	23	1												

TABLE 1.—Climatological data for March, 1910. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.				
Minnesota—Cont'd.																					
Taylors Falls	Chisago	759	3	43.4		82	23	10	8	48	T.	0.0	0	22	7	2	s.	Mpls. Gen. Elec. Co.			
Warroad	Roseau	1,069	1	55.2		81	23	-3	10	50	0.86	0.63	T.	2	18	5	2	w.	John H. Sawyer.		
West Concord	Dodge	1,232	1	43.4		80	23	18	7	40	0.00	0.00	0.0	19	11	1	sw.	H. H. Orcutt.			
Willow River	Pine	1,046	12	39.0	+14.6	78	23	7	9	47	0.22	-1.04	0.12	1.0	7	5	s.	J. A. Brandt.			
Windom	Cottonwood	1,338	4	45.8		83	23	20	8	48	0.11	0.11	0.0	19	12	0	nw.	Tafer C. Richmond.			
Winnebago	Faribault	1,100	11	45.6	+15.4	85	23	19	1	43	0.07	-1.36	0.07	0.2	6	3	nw.	H. H. Haight.			
Winnibigoshish	Itasca	1,300	22	39.0	+18.1	79	23	8	9	41	0.23	-1.00	0.20	T.	5	5	w.	John Duncan.			
Winona	Winona	700	15	46.6	+15.7	84	23	18	10	41	0.02	-1.61	0.02	0.2	1	23	7	1	sw.	Perry C. Myers.	
Worthington	Nobles	979	15	44.4	+15.9	78	23	15	16	46	0.08	-1.46	0.08	0.2	1	26	1	4	s.	W. I. Carpenter.	
Zumbrota	Goodhue	917	15	44.6	+15.3	81	23	18	7	43	0.02	0.02	0.2	1	24	7	0	nw.	W. C. Rowell.		
South Dakota.																					
Milbank	Grant	1,148	18	43.5	+16.9	85	23	19	8	47	0.35	-1.00	0.35	0.0	1	20	2	9	nw.	I. T. Patridge.	
Wisconsin.																					
Antigo	Langlade	1,489	16	40.4	+13.1	78	29	-6	3	54	0.20	0.20	2.0	1	17	9	5	w.	Elton C. Larzelere.		
Barron	Barron	1,115	18	40.2	+14.8	76	29	12	9	47	T.	-1.67	T.	0	25	6	0	sw.	Wm. A. Kent.		
Beloit	Rock	750	23	47.4	+13.8	82	29	20	8	44	T.	-2.19	T.	0	29	1	1	s.	Smith Observatory.		
Brodhead	Green	812	12	45.5	+11.2	84	29	12	10	52	T.	-2.59	T.	0	28	3	0	sw.	Hecktor D. Kirkpatrick.		
Burnett	Dodge	880	6	42.0		81	29	9	9	39	0.02	0.02	0.8	1	22	6	3	sw.	Geo. W. Smith.		
Delavan	Walworth	920	17	44.6	+12.7	82	29	14	8	44	0.12	-1.75	0.10	T.	2	24	5	2	sw.	Elwood S. Austin.	
Dodgeville	Iowa	1,116	11	37.7		80	23	4	1	46	T.	0.0	0	0	16	7	8	w.	Eugene F. Stoddard.		
Downing	Dunn	983	8	41.5		80	23	18	10	39	0.03	1.60	T.	0	9	21	1	sw.	Robert D. Whitford.		
Eau Claire	Eau Claire	800	19	44.6	+16.0	82	23	16	7	44	0.01	-2.04	0.01	0.1	1	22	9	0	nw.	Henry G. Wood.	
Pierce		1,068	2																George Sell.		
Glidden	Ashland	1,519	18																Willis B. Raymond.		
Grand Rapids	Wood	1,021	11	42.5	+12.9	82	29	14	9	47	T.	-1.60	T.	0	9	21	1	sw.	Theodore Oleen.		
Grantsburg	Burnett	1,095	19	42.0	+16.1	80	23	4	9	54	0.10	-1.70	0.10	T.	1	23	7	1	sw.	Frederick B. Hamilton.	
Hancock	Waushara	1,091	18	42.5	+13.1	83	29	11	3	42	0.03	-1.79	0.03	0	1	18	12	1	sw.	Walter S. Woods.	
Hatfield	Jackson	973	15	43.2	+14.5	80	29	12	10	46	T.	-1.30	T.	0	20	5	6	s.	William E. Swain.		
Hayward	Sawyer	1,107	19	39.6	+15.3	78	23	4	9	46	0.35	-1.71	0.25	5.2	3	15	12	4	sw.	Emil V. Wernick.	
Hillsboro	Vernon	1,000	19	42.0	+12.8	80	29	7	10	45	T.	-2.10	T.	0	20	11	0	sw.	Edward S. Koepenick.		
Koepenick	Langlade	1,883	20	37.7	+11.6	78	29	2	9	45	0.35	-1.49	0.20	2.0	4	14	4	1	s.	U. S. Weather Bureau.	
La Crosse	La Crosse	714	38	45.6	+14.8	83	29	18	10	39	0.03	1.62	0.02	0.2	13	14	4	sw.	Edward Pollock.		
Lake Mills	Jefferson	897	19	43.4	+11.4	82	29	14	3	43	0.14	-2.07	0.12	1.2	0	12	18	1	sw.	Louie Frank.	
Lancaster	Grant	1,070	20	46.4	+15.5	82	29	14	3	45	0.00	-2.76	0.00	0	0	19	20	1	sw.	U. S. Weather Bureau.	
Long Lake	Oneida	1,582	2	36.0		80	29	7	9	52	0.23	0.15	2.0	4	19	8	4	w.	Frank Evans.		
Madison	Dane	974	32	44.6	+14.5	82	29	18	8	43	0.14	-2.07	0.10	0.4	2	20	10	1	sw.	Eugene L. Hitchcock.	
Mather	Juneau	962	6	41.5		83	29	6	8	47	T.	0.0	0	0	13	15	3	w.	Charles H. Johnson.		
Meadow Valley	Mauston	882	14	45.6	+15.8	82	29	15	9	47	0.00	-2.01	0.00	3.0	25	4	2	sw.	William Zeit.		
Medford	Sauk	974	19	43.2	+15.0	82	29	12	10	49	T.	-1.44	T.	0	11	3	1	sw.	William Heaslett.		
Merrill	Taylor	1,420	19	41.1	+15.2	78	29	10	13	42	0.10	-1.40	0.10	1.0	1	24	3	4	w.	Frank M. McElroy.	
Minocqua	Lincoln	1,267	4	42.1		82	29	12	2	51	0.22	0.17	4.5	3	26	2	3	sw.	Dr. Charles Hebard.		
Mondovi	Vilas	1,804	6	37.6		78	29	1	3	52	0.15	0.15	0.3	2	27	7	2	w.	W. M. Lewis.		
Mount Horeb	Buffalo	738	2	44.6		81	23	17	3	44	0.01	0.01	0.05	0	1	24	7	0	sw.	Henry Eckstein.	
Muscoda	Dane	1,226	6	45.2		82	29	15	9	45	0.10	0.10	0.0	0	1	24	6	3	s.	William Headlett.	
Neillsville	Clark	966	21	43.4	+15.6	81	23	12	10	47	T.	-1.98	T.	0	23	6	3	sw.	Harrison B. Chamberlin.		
New Richmond	St. Croix	990	5	44.0		81	23	13	7	43	0.08	0.08	0.08	0	1	17	13	1	sw.	John M. Sayles.	
Oscceola	Polk	806	19	42.8	+16.5	78	29	12	8	41	0.13	-1.84	0.13	T.	1	26	5	0	w.	Horace A. Bresce.	
Portage	Columbia	809	14	44.4	+14.0	83	29	14	10	45	0.05	-1.77	0.05	T.	1	26	3	2	sw.	W. Humphrey Scott.	
Prairie du Chien	Crawford	690	23	44.8	+14.5	80	23	2	1	46	0.02	-1.93	0.02	0.5	0	19	10	2	s.	James Clear.	
Prentice	Price	1,551	12	38.0	+13.9	76	29	0	9	43	0.42	-0.85	0.38	3.8	2	13	11	7	w.	Jas. A. Gillis.	
Rhinelander	Oneida	1,550	4	40.0		79	29	-1	9	50	0.33	0.27	4.5	5	16	12	3	sw.	Joseph G. Lash.		
Sauk City	Sauk	758	2	45.4		84	29	11	10	47	0.10	0.10	0.10	0	1	24	7	0	w.	John Lind.	
Shullsburg	Lafayette	1,019	4	43.9		82	29	13	8	46	0.13	0.07	0.8	2	23	6	2	sw.	Kilian Derleth.		
Solon Springs	Douglas	1,083	4	39.4		82	29	5	9	44	0.10	0.10	2.0	1	17	7	1	sw.	F. H. Baker.		
Spooner	Washburn	1,104	15	41.2	+13.9	79	23	11	9	40	T.	-2.05	T.	0	28	2	1	w.	William Ball.		
Stanley	Chippewa	1,082	6	41.4		78	29	11	10	39	0.03	0.03	0.2	1	21	9	1	nw.	Iowa State College.		
Stevens Point	Monroe	1,113	17	42.2	+13.9	79	29	2	1	50	T.	-1.92	T.	0	16	14	1	sw.	W. R. Vandike.		
Valley Junction	Monroe	930	18	42.6	+13.4	83	29	2	1	50	T.	-2.24	T.	0	18	14	1	sw.	S. P. Van Dike.		
Viroqua	Vernon	1,410	12	46.0	+15.7	79	29	-3	9	45	0.62	0.50	1.0	2	15	14	1	sw.	Geo. P. Hardwick.		
Vudesare	Vilas	1,600	2	36.0		79	29	2	1	50	0.62	-2.14	0.14	1.0	2	21	7	3	sw.	Henry E. Rogers.	
Watertown	Jefferson	824	19	43.2	+12.2	82	29	16	10	39	0.24	-2.04	0.08	0.5	2	20	9	2	w.	Louis L. Thomas.	
Waukesha	Waukesha	864	14	44.4	+12.4	82	29	18	9	47	0.14	-2.09	0.08	0.5	2	20	11	0	sw.	Charles J. Salick.	
Marathon	Marathon	1,212	17	43.3	+17.4	80	29	13	3	41	0.07	-1.63	0.04	3.0	2	20	9	2	w.	Carroll College.	
Rusk	Trempealeau	1,297	3	40.4		78	29	7	10	41	0.18	0.07	1.7	4	16	12	3	n.	George H. Halder.		
Burlington		675	18	45.4	+15.2	85	24	17	8	48	0.05	-1.53	0.05	0.5	1	23	7	1	n.	Miss Etta Stiles.	
Albia	Monroe	959	12	50.5	+12.9	86	23	20	10	42	0.35	-1.55	0.31	0.0	2	25	3	3	sw.	Henry A. Towner.	
Algoma	Kossuth	1,213	36	47.0	+17.4	83															

TABLE 1—Climatological data for March, 1910. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Highest.	Date.	Lowest.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmetted.	Number of rainy days, 1/1 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.					
Iowa—Cont'd.																					
Fairfield.	Jefferson.	26	50.8 ^a	+17.0	86 ^b	23	20 ^c	15	45 ^d	0.53	-2.04	0.28	0	2	26	3	2	s.			
Fayette.	Fayette.	1,003	20	45.0	+13.8	84	23	13	10	47	0.10	-2.16	0.05	0	2	25	6	0	nw.		
Forest City ^e .	Winnebago.	1,226	16	46.0	+16.3	84	23	20	1	40	0.24	-1.32	0.12	0	3	25	5	1	w.		
Fort Dodge.	Webster.	1,126	10																		
Fort Madison.	Lee.	516	61																		
Gilman.	Marshall.	1,082	11																		
Grand Meadow.	Clayton.	1,180	19	44.6	+13.3	83	23	15	8	44	0.01	-2.13	0.01	T.	1	14	15	2	sw.		
Greene.	Butler.	12	46.0	+13.4	84	23	19	8	46	0.22	-1.47	0.12	0	2	17	7	7	s.			
Grinnell.	Poweshiek.	1,023	18	53.0	+19.9	90	23	26	10	47	0.80	-0.94	0.74	0	3	22	5	4	w.		
Grundy Center ^f .	Grundy.	976	19	47.6	+15.0	84	21	22	10	45	0.02	-1.80	0.02	0	1	24	5	2	sw.		
Guthrie Center ^f .	Guthrie.	1,077	15	50.4	+15.0	85	23	20	10	46	0.01	-1.39	0.01	0	1	24	5	2	nw.		
Hampton.	Franklin.	1,155	20	47.4	+17.1	85	23	21	10	41	0.36	-1.89	0.20	0	4	15	13	3	sw.		
Humboldt.	Humboldt.	1,095	22	48.6	+10.8	85	23	22	8	48	0.08	-1.52	0.08	0	1	30	1	1	nw.		
Independence ^g .	Buchanan.	921	46	46.6	+15.8	84	23	19	8	44	0.60	-1.63	0.00	0	0	26	2	3	nw.		
Indianola.	Warren.	969	19	52.0	+15.9	86	23	24	10	47	0.32	-1.00	0.31	0	2	15	9	7	sw.		
Iowa City.	Johnson.	683	50	47.0	+13.0	87	23	16	8	48	0.28	-2.16	0.18	0	2	25	3	3	nw.		
Iowa Falls.	Hardin.	1,170	17	44.8	+12.9	84	23	14	1	45	T.	-1.73	T.	T.	0	0	26	3	2	sw.	
Jefferson ^h .	Greene.	11	50.1		85	23	22	10	45	T.	-1.84	0.36	0	3	25	6	0	sw.			
Keokuk.	Lee.	547	39	53.6	+15.7	86	23	24	15	38	0.53	-1.31	0.45	0	3	12	16	3	....	
Kenosha.	Van Buren.	644	18	48.0	+10.4	86	23	13	15	51	1.23	-1.07	0.45	0	2	21	5	5	nw.		
Knoxville.	Marion.	920	15	51.8	+14.4	85	23	23	10	47	0.50	-0.30	0.30	0	3	13	14	4	....	
Lacona.	Warren.	11																			
Le Claire.	Scott.	576	19																		
Marshalltown.	Marshall.	947	18	48.0	+14.6	88	23	19	1	45	0.34	-2.34	0.20	0	3	24	5	2	nw.		
Mason City ⁱ .	Cerro Gordo.	1,132	13	44.6	+13.0	82	23	19	10	44	0.26	-1.42	0.18	0	2	20	10	1	s.		
Mount Pleasant ^j .	Henry.	729	29	51.0	+14.3	87	26	22	15	46	0.73	-1.70	0.53	0	2	25	6	0	sw.		
Muscatine.	Muscatine.	50																			
New Hampton ^k .	Chickasaw.	1,169	13	44.2	+12.5	81	23	16	8	42	0.15	-1.86	0.15	0	1	26	5	0	sw.		
Newton ^l .	Jasper.	944	22	50.2	+15.1	85	23	23	10	46	0.36	-2.43	0.26	0	4	2	2	s.	A. F. Kemman.		
Northwood ^l .	Worth.	1,222	14	43.8	+12.7	80	23	19	10	41	0.08	-1.78	0.04	0	4	25	6	0	sw.	J. P. Beatty.	
Olin ^m .	Jones.	760	12																C. M. Miles.		
Ossage.	Mitchell.	1,184	23	46.4	+17.3	84	23	19	8	42	T.	-1.76	T.	T.	0	0	20	10	1	nw.	A. D. Bundy.
Oskaloosa ⁿ .	Mahaska.	843	34	50.8	+15.6	87	23	20	15	42	0.28	-1.58	0.25	0	2	27	1	3	sw.	Joseph Boyd.	
Ottumwa.	Wapello.	649	15	53.8	+15.1	90	23	20	15	42	0.87	-1.27	0.77	0	3	14	6	11	s.	W. J. Mesmer.	
Pella.	Marion.	877	8	50.0	+17.0	87	23	17	15	47	0.20	-0.83	0.18	0	2	27	3	1	nw.	John H. Ver Steeg.	
Perry ^o .	Dallas.	975	9	49.6	+12.7	85	23	22	10	45	T.	-2.14	T.	T.	0	0	18	11	2	J. A. Harvey.
Plover.	Pocahontas.	1,426	14	46.6	+14.5	82	23	20	13	49	0.04	-1.17	0.04	0	1	28	3	0	nw.	J. S. Smith.	
Pocahontas ^p .	do.	1,248	6	46.8		83	23	21	15	45	0.03	-0.02	0.02	0	2	24	4	3	s.	F. E. Hronek.	
Ridgeview ^q .	Winneshiek.	1,215	12	46.5	+13.4	84	23	17	8	44	0.18	-3.03	0.10	0	4	27	4	0	....	Arthur Betts.
Rockwell City ^r .	Calhoun.	14	48.2	+14.6	84	23	20	11	41	T.	-2.08	T.	T.	0	0	29	2	0	sw.	C. M. Randall.	
Sac City.	Sac.	1,278	34	49.0 ^s	+17.7	84	23	24	10	47	0.03	-1.91	0.03	0	1	27	2	2	sw.	E. N. Baily.	
St. Charles ^t .	Madison.	1,070	9	53.1	+14.9	87	26	23	10	39	0.03	-1.91	0.03	0	1	27	3	4	nw.	R. D. Minard.	
Sigourney ^u .	Keokuk.	877	14	49.8	+12.9	84	23	20	15	47	0.50	-1.56	0.35	T.	3	25	12	4	s.	J. T. Parker.	
Stockport ^v .	Van Buren.	8	49.8		85	23	15	15	46	1.06	-1.27	0.72	0	3	25	12	4	sc.	S. B. Fracker.		
Storm Lake.	Buena Vista.	1,440	21	48.0 ^w	+18.7	81 ^x	23	23	10	47	0.05	-1.27	0.05	0	1	27	3	1	sw.	J. P. Fox.	
Stuart.	Guthrie.	1,216	11	51.0	+16.1	85	23	21	10	41	T.	-2.25	T.	T.	0	0	23	4	4	sc.	F. K. Gregg.
Tipton ^y .	Cedar.	807	11	49.8	+13.2	85	23	24	15	42	0.17	-2.70	0.11	0	2	29	2	5	nw.	I. F. Giger.	
Toledos.	Tama.	866	16	48.2	+13.5	84	23	19	10	44	0.20	-1.71	0.20	0	2	24	7	2	nw.	G. W. Schofield.	
Wapello.	Louisa.	588	12	51.0	+13.6	85	23	23	14	42	0.44	-1.98	0.34	0	2	24	6	2	sw.	Wm. A. Cook.	
Washington.	Washington.	769	28	50.8	+16.6	85	23	19	15	46	0.62	-1.64	0.43	0	12	23	6	2	sw.	M. L. Newton.	
Waterloo.	Black Hawk.	862	27	46.8	+15.0	86	23	12	1	41	0.09	-1.66	0.06	0	2	23	8	0	w.	Samuel F. Folt.	
Waukee.	Dallas.	1,039	7	50.5		86	23	21	10	39	0.37	-1.58	0.35	0	2	19	9	3	sw.	H. S. Hoover.	
Waverly.	Bremer.	948	14	45.6	+12.8	84	23	19	8	42	0.14	-1.81	0.11	0	2	24	15	2	s.	C. D. Carpenter.	
Webster City ^z .	Hamilton.	5				85	23	19	10	46	T.	-1.46	0.08	0	2	23	7	1	nw.	Joseph Dorweiler.	
West Bend ^{aa} .	Palo Alto.	1,197	17	46.3	+15.3	82	23	20	8	44	0.14	-1.46	0.08	0	2	19	8	4	nw.	F. P. Butler.	
Whittem.	Hardin.	1,036	13	47.1	+13.8	84	23	20	10	40	T.	-1.38	T.	T.	0	0	20	8	3	nw.	Robert S. Cooper.
Winterset ^{bb} .	Madison.	1,129	19	50.9	+15.2	82	26	19	10	45	T.	-1.93	T.	T.	0	0	23	3	2	sw.	Orley Reese.
Zearing.	Story.	6				86	23	20	10	48	0.00		0.00	0	6	23	2	0			
Corin.	Scotland.	700	24																		
Hannibal.	Marion.	534	18	53.9	+12.3	88	23	21	15	39	0.15	-2.16	0.29	0	2	21	8	2	sw.	J. W. Pulliam.	
Louisiana.	Pike.	500	32	53.9	+11.3	88	23	18	15	47	0.20	-2.39	0.20	0	1	25	5	9	sw.	U. S. Weather Bureau.	
Mexico.	Audrain.	797	32	53.7	+12.0	90	23	20	15	56	0.45	-2.20	0.20	0	3	4	17	6	2	sw.	J. T. Farrell.
Steffenville.	Lewis.	576	17	54.0	+12.4	88	23	21	15	41	0.50	-2.50	0.50	0	1	23	6	2	sw.	J. F. Llewellyn.	
Subbelt.	Adair.	1,000	30	52.6	+13.7	85	23	19	15	45	0.10	-2.78	0.10	0	1	22	8	1	sc.	Lewis Spriggs.	
Warrenton.	Warren.	865	20	54.8	+13.3	88	23	22	15	53	0.30	-3.62	0.18	0	3	16	6	9	s.	Frank Hall.	
Indiana.	Jasper.	11	49.0	+ 7.9	87	24	20	8	50	0.98	-2.33	0.45	T.	4	10	13	8	2	sw.	Dr. J. H. Frick.	
Knox ^{cc} .	Starke.	716	5	48.2		85	24	15	10	50	0.51	-2.66	T.	6	17	11	3	0	w.	Prof. L. C. Klosterman.	
Laporte.	Laporte.	810	14	46.0	+ 8.2	83	24	14	10	49	0.49	-2.64	0.24	T.	3	22	9	0	w.	W. R. T. Tatman.	
Plymouth.	Marshall.	790	7	47.8		83	24	16	15	39	0.33		0.21	0.2							

MONTHLY WEATHER REVIEW.

MARCH, 1910

TABLE I.—Climatological data for March, 1910. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.			Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.				
<i>Illinois—Cont'd.</i>																		
Henry.....	Marshall.....	500	22	50.1	+12.5	84	23	19	15	48	0.12	-2.35	0.06	0.0	2	24	5	2 sw.
Hillsboro.....	Montgomery.....	675	16	55.2	+11.7	87	23	19	15	39	T.	-3.33	T.	0.0	0	19	5	7 nw.
Joliet.....	Will.....	541	19	47.6	+10.1	83	27	19	15	47	0.24	-2.60	0.23	0.0	2	23	6	2 sw.
Kishwaukee.....	Winnebago.....	730	22	46.2	+11.8	84	29	18	8	45	0.27	-2.35	0.17	0.0	1	26	4	1 sw.
La Grange.....	Cook.....	657	18	46.4	+10.4	82	27	19	15	43	0.05	-2.52	0.05	T.	1	23	5	3 sw.
La Harpe.....	Hancock.....	698	31	50.6	+12.0	88	23	20	15	44	0.34	-2.63	0.34	0.0	1	27	3	1 sw.
Lanark.....	Carroll.....	883	21	45.2	+11.3	83	23†	12	8	48	0.28	-1.95	0.12	T.	4	27	4	0 sw.
La Salle.....	La Salle.....	536	33	49.3	+12.5	84	23	24	15	47	0.19	-2.63	0.12	0.0	4	21	8	2 sw.
Lincoln.....	Logan.....	482	22	50.9	+11.3	81	24†	22	15	34	0.47	-2.39	0.25	0.0	3	21	8	2 nw.
Martinton.....	Iroquois.....	633	23	48.4	+11.3	86	24†	17	15	43	0.45	-2.19	0.38	0.0	3	16	9	6 sw.
Mascoutah.....	St. Clair.....	425	20	57.0	+13.0	93	23	29	15	45	0.02	-3.03	0.02	0.0	1	21	8	0 se.
Minonk.....	Woodford.....	745	17	50.4	+12.1	88	23	18	15	51	0.03	-2.47	0.03	0.0	1	17	14	0 sw.
Monmouth.....	Warren.....	784	18	51.4	+12.5	88	23	20	15	45	0.73	-1.59	0.46	T.	5	25	4	2 sw.
Morrison.....	Whiteside.....	685	16	47.4	+11.6	83	23	17	15	45	0.44	-2.47	0.16	0.0	1	23	6	2 sw.
Morrisonville.....	Christian.....	693	11	52.4	+8.9	23†	18	15	42	15	0.04	-2.71	0.04	0.0	1	14	11	6 s.
Mount Vernon.....	Jefferson.....	511	16	55.8	+10.2	90	23†	19	15	47	0.02	-4.91	0.02	0.0	4	23	6	6 s.
Oregon.....	Ogle.....	702	1	47.6	—	85	29	13	10	47	T.	—	T.	0.0	0	19	6	12 sw.
Ottawa.....	La Salle.....	500	24	49.5	+12.0	85	23	32	15	50	0.42	-2.38	0.34	0.0	3	13	6	3 nw.
Pana.....	Christian.....	692	24	54.3	+13.0	87	24	18	15	39	0.40	-2.87	0.15	0.0	4	26	2	3 s.
Peoria.....	Peoria.....	609	33	49.8	+12.8	85	23	18	15	41	0.52	-2.44	0.38	0.0	4	23	7	1 s.
Pontiac.....	Livingston.....	546	8	51.0	—	86	23	20	15	50	0.20	—	0.09	0.0	3	20	9	2 sw.
Riley.....	McHenry.....	956	51	45.8	+14.2	89	29	17	8	41	0.24	-2.21	0.18	T.	3	18	11	2 sw.
Rockford.....	Winnebago.....	703	18	45.4	+11.4	82	29	15	1	39	0.27	-2.25	0.17	0.0	3	26	2	3 s.
Rushville.....	Schuyler.....	670	19	53.4	+12.8	88	23	22	15	41	0.12	-2.20	0.12	0.0	1	21	7	3 s.
St. Charles.....	Kane.....	700	15	46.6	+10.0	82	27	18	15	44	0.35	-2.04	0.25	T.	2	14	14	3 sw.
St. Peter.....	Fayette.....	500	8	55.2	—	88	23	18	15	40	0.15	—	0.10	0.0	2	22	6	3 sw.
Springfield.....	Sangamon.....	644	33	52.5	+13.7	86	23	24	15	41	0.18	-2.89	0.08	0.0	3	16	11	4 s.
Streator.....	La Salle.....	626	17	48.8	+9.7	87	23	19	15	53	0.41	-2.59	0.18	0.0	3	24	3	4 sw.
Sullivan.....	Moultrie.....	530	10	53.0	+9.3	88	23†	16	15	43	0.34	-2.79	0.20	0.0	3	22	7	2 nw.
Sycamore.....	De Kalb.....	855	30	45.8	+11.9	84	23†	13	1	49	0.25	-2.24	0.23	0.0	1	21	1	9 sc.
Tilden.....	Randolph.....	500	24	57.0	+11.8	90	23	20	15	40	0.03	-3.97	0.03	0.0	1	28	3	0 s.
Tiskilwa.....	Bureau.....	798	16	49.7	+12.8	84	23	19	15	45	0.31	-2.57	0.13	0.0	4	28	3	0 s.
Walnut.....	do.....	717	19	50.0 ^a	+11.9	84	23	23 ^a	87	45 ^a	0.30	-2.48	0.15	0.0	3	24	5	2 sw.
White Hall.....	Greene.....	573	2	52.6	—	89	23	17	15	45	0.05	—	0.05	0.0	1	20	8	3 w.
Windsor.....	Shelby.....	681	11	52.4	+10.2	89	23	13	15	45	0.43	-2.57	0.35	0.0	4	18	8	5 s.
Winnebago.....	Winnebago.....	900	23	46.0	+11.7	84	29	16	8	46	0.36	-2.36	0.28	0.0	3	29	2	0 sw.
Yorkville.....	Kendall.....	584	23	46.3	+11.5	82	23	18	15	48	0.07	-2.23	0.05	0.0	2	26	1	4 w.
Zion.....	Carroll.....	938	16	46.5	+11.4	82	23†	14	1	44	0.33	-1.73	0.29	0.0	2	29	1	1 sw.

*, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

Data are from standard instruments not supplied by the U. S. Weather Bureau.

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

|| Estimated by observer.

¶ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Dr. R. A. Pritchett.

Herbert Rose.

Frank Oshorn.

Herman A. Grimwood.

Robt. F. Gilligly.

Edw. F. Sweetser.

C. A. Corbin.

Miss E. J. Davis.

Jas. A. Caldwell.

F. L. Smucker.

O. C. Nussle.

Dr. Wm. H. Bishop.

M. L. Lansford.

U. S. Weather Bureau.

C. A. Corbin.

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F. L. Smucker.

O. C. Nussle.

Dr. R. A. Pritchett.

Herbert Rose.

Frank Oshorn.

Herman A. Grimwood.

Robt. F. Gilligly.

TABLE 2.—*Daily precipitation for March, 1910.* District No. 5, Upper Mississippi Valley.

TABLE 2.—*Daily precipitation for March, 1910. District No. 5—Continued.*

TABLE 2.—*Daily precipitation for March, 1910. District No. 5—Continued.*

Stations.	River basins.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Iowa—Cont'd.																																		
Indiana.	Des Moines.																																	0.33
Iowa City|||	Iowa.																																	0.28
Iowa Falls|||	do.	T.	T.																															T.
Jefferson.	Raccoon.																																	0.53
Keokuk.	Mississippi.																																	1.23
Keosauqua|||	Des Moines.																																	0.50
Knoxville.	do.																																	0.60
Lacona.	do.																																	0.37
Le Claire|||	Mississippi.																																	0.34
Marshalltown|||	Iowa.																																	0.26
Mason City.	Cedar.																																	0.73
Mount Pleasant.	Skunk.																																	0.36
Muscatine|||	Mississippi.																																	0.15
New Hampton.	Wapsipinicon.																																	0.27
Newton.	Skunk.																																	0.08
Northwood.	Cedar.																																	0.34
Olin.	Wapsipinicon.																																	0.08
Osage.	Cedar.																																	T.
Oskaloosa.	Des Moines.																																	0.28
Otumwa.	do.																																	0.87
Pella.	do.																																	0.20
Perry.	Raccoon.																																	T.
Plover.	Des Moines.																																	0.04
Pocahontas.	do.																																	0.03
Ridgeway.	Mississippi.																																	0.18
Rockwell City.	Raccoon.																																	T.
Sac City.	do.																																	T.
St. Charles.	Des Moines.																																	0.03
Sigourney.	Skunk.																																	0.50
Stockport.	do.																																	1.06
Storm Lake.	Raccoon.																																	0.05
Stuart|||	do.																																	T.
Tipton.	Cedar.																																	0.17
Toledo.	Iowa.																																	0.20
Waello.	do.																																	0.44
Washington.	Skunk.																																	0.62
Waterloo|||	Cedar.																																	0.09
Waukee.	Raccoon.																																	0.37
Waverly.	Cedar.																																	0.14
Webster City.	Des Moines.																																	T.
West Bend.	Des Moines.																																	0.14
Whitten.	Iowa.																																	T.
Winterset.	Des Moines.																																	T.
Zearing.	Iowa.																																	T.
Missouri.																																		0.67
Darksville.	Chariton.																																	0.49
Gorin.	Mississippi.																																	0.15
Hannibal.	do.	T.																																0.20
Louisiana.	do.																																	0.45
Mexico|||	do.																																	0.50
Steffenville.	do.																																	0.10
Sublett.	do.																																	0.30
Warrenton|||	do.																																	T.
Indiana.	Iroquois.																																	0.98
Knox.	Kankakee.																																	0.51
Laporte.	do.																																	0.49
Plymouth.	do.																																	0.33
Illinois.	Illinois.																																	0.70
Aledo.	Illinois.																																	0.04
Alexander.	do.	T.																																0.05
Antioch.	Illinois.																																	0.40
Astoria.	do.	T.																																0.36
Aurora.	do.																																	0.41
Bement.	Mississippi.																																	T.
Benton.	do.																																	0.10
Bloomington.	Illinois.																																	

TABLE 2.—*Daily precipitation for March, 1910. District No. 5—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations, March, 1910. District No. 5, Upper Mississippi Valley.

Date.	North Dakota.												Minnesota.																																					
	Bottineau.				Devils Lake.				Lisbon.				Minot.				Pembina.				Collegeville.				Crookston.				Grand Meadow.				Montevideo.				Monhead.				New Ulm.				Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.												
1.	28	5	30	13	29	12	32	11	28	14	35	18	35	12	41	24	35	10	42	27	42	17	44	40	34	17	42	26	36	15	35	23	40	16																
2.	31	6	31	26	38	6	42	11	26	12	48	20	48	10	50	26	42	26	42	27	42	17	44	47	38	14	45	28	42	13	42	13																		
3.	38	19	43	23	49	12	50	22	42	10	48	20	48	12	53	24	42	26	42	27	42	17	44	57	54	14	51	26	52	14	51	26																		
4.	44	20	49	23	38	24	53	31	42	26	54	29	54	18	51	34	42	28	42	27	42	17	44	54	50	19	49	30	52	19	50	20																		
5.	50	28	50	29	36	20	51	34	42	28	49	29	49	19	53	34	42	28	42	27	42	17	44	51	51	17	49	33	54	19	50	20																		
6.	28	18	35	18	32	24	50	26	38	8	41	29	41	16	44	31	42	27	42	27	42	17	44	48	49	9	51	26	52	14	51	26																		
7.	20	8	25	11	36	20	36	16	38	8	31	13	31	12	33	17	33	12	32	17	32	12	32	18	32	14	32	11	32	11	32	11	32																	
8.	33	9	31	17	38	12	44	14	38	12	33	17	33	15	35	21	32	17	32	17	32	12	32	18	32	14	32	13	32	13	32	13	32																	
9.	37	10	34	19	48	24	40	19	42	18	35	21	35	15	38	24	32	17	32	17	32	12	32	18	32	14	32	13	32	13	32	13	32																	
10.	50	12	50	25	51	26	55	24	40	25	42	21	40	19	42	24	32	17	32	17	32	12	32	18	32	14	32	13	32	13	32	13	32																	
11.	49	21	46	27	56	34	53	32	44	26	42	30	40	20	42	30	40	27	42	30	40	27	42	30	40	25	40	27	42	30	40	25	40	25	40															
12.	90	22	64	35	62	32	68	33	63	30	58	27	58	19	61	34	63	27	63	27	63	27	63	27	63	27	63	27	63	27	63	27	63	27	63															
13.	44	26	44	24	59	40	50	38	58	17	54	40	54	27	54	40	54	27	54	40	54	27	54	40	54	27	54	33	53	30	53	30	53																	
14.	55	24	50	23	61	38	58	19	63	14	62	42	62	25	61	35	63	25	61	35	63	25	61	35	63	25	61	35	63	25	61	35	63																	
15.	53	25	54	28	59	24	60	31	60	20	55	27	55	17	55	27	55	17	55	27	55	17	55	27	55	17	55	27	55	17	55	27	55																	
16.	62	20	62	25	66	22	66	31	55	12	52	49	52	26	52	49	52	26	52	49	52	26	52	49	52	26	52	49	52	26	52	49	52																	
17.	60	20	59	25	65	20	60	23	60	12	52	49	52	26	52	49	52	26	52	49	52	26	52	49	52	26	52	49	52	26	52	49	52																	
18.	67	25	69	34	73	21	73	41	68	12	62	59	68	26	62	59	68	26	62	59	68	26	62	59	68	26	62	59	68	26	62	59	68																	
19.	65	30	65	33	74	28	74	38	72	29	60	50	68	26	62	59	68	26	62	59	68	26	62	59	68	26	62	59	68	26	62	59	68																	
20.	67	28	60	26	73	20	73	38	72	26	51	38	63	26	51	38	63	26	51	38	63	26	51	38	63	26	51	38	63	26	51	38	63																	
21.	70	40	71	41	64	50	75	62	71	44	68	60	71	50	75	62	71	44	68	60	71	44	68	60	71	44	68	60	71	44	68	60	71	44	68															
22.	71	38	65	34	74	52	72	62	70	40	65	58	70	52	72	62	70	40	65	58	70	40	65	58	70	40	65	58	70	40	65	58	70	40	65															
23.	79	40	85	42	86	52	79	68	70	40	71	64	70	52	79	68	70	40	71	64	70	40	71	64	70	40	71	64	70	40	71	64	70	40	71	64														
24.	52	30	46	29	57	34	54	32	54	26	51	46	54	37	54	35	54	37	54	35	54	37	54	35	54	37	54	35	54	37	54	35	54	37	54															
25.	55	25	59	29	70	38	59	59	70	26	51	54	63	30	59	57	63	30	59	57	63	30	59	57	63	30	59	57	63	30	59	57	63	30	59															
26.	59	35	57	30	68	39	59	26	40	27	65	41	60	30	40	39	44	37	61	46	60	30	40	39	44	37	61	46	60	30	40	39	44	37	61	46	60													
27.	40	36	47	35	70	34	44	29	58	32	61	48	55	30	47	34	58	32	61	48	55	30	47	34	58	32	61	48	55	30	47	34	58	32	61															
28.	57	26	59	30	68	36	58	31	62	30	71	41	61	57	57	57	63	57	71	41	61	57	71	41	61	57	71	41	61	57	71	41	61	57	71															
29.	40	31	53	43	70	36	43	36	44	40	75	57	57	35	38	36	44	36	75	57	57	35	38	36	44	36	75	57	57	35	38	36	44	36	75															
30.	48	32	47	29	47	32	51	51	46	36	62	62	62	35	35	35	46	36	62	62	62	35	35	35	46	36	62	62	62	35	35	35	46	36	62															
31.	52	30	59	28	70	24	57	57	60	26	63	63	63	35	35	35	46	35	63	63	63	35	35	35	46	35	63	63	63	35	35	35	46	35	63															
Mns.	50.1	23.8	51.6	27.7	57.4	31.0	56.6	28.7	44.8	24.2	55.5	32.3	48.1	26.9	56.8	32.2	50.3	31.2	52.6	29.2	59.5	33.0	52.0	23.6	55.4	34.4	52.3	25.8	55.4	34.4	52.3	25.8	55.4	34.4	52.3	25.8														

Date.	Wisconsin.												Iowa.																																			
	Delavan.				Eau Claire.				La Crosse.				Madison.				Mauson.				Spooner.				Wausau.				Algona.				Cedar Rapids.				Charles City.				Davenport.				Des Moines.			

TABLE 3.—*Maximum and minimum temperatures at selected stations, March, 1910. District No. 5—Continued.*

Date.	Illinois.												Winnebago.															
	Hannibal, Mo.				Leavenworth, Kans.				Cairo.				Greenville.				La Salle.				Monmouth.				Mt. Vernon.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.	51	32	42	27	69	37	46	33	39	32	49	39	53	29	41	30	47	34	37	26	62	31	41	26	37	26		
2.	62	30	45	25	67	35	61	21	52	30	60	23	66	32	57	27	62	31	41	26	62	31	45	20	45	20		
3.	65	32	48	23	73	48	65	36	46	39	59	39	80	34	57	28	61	36	45	26	61	36	45	20	45	20		
4.	72	37	63	29	78	53	72	44	69	33	63	32	83	41	64	32	70	40	53	26	70	40	53	26	48	26		
5.	78	48	67	35	89	58	76	46	71	38	74	43	76	48	69	42	73	48	59	36	73	48	59	36	48	26		
6.	61	38	61	33	75	46	64	48	56	39	69	42	65	42	56	38	61	40	48	36	61	40	48	36	48	36		
7.	55	34	38	23	62	49	55	34	49	29	50	32	57	38	47	28	50	35	38	25	50	35	38	25	49	25		
8.	59	30	42	23	65	42	53	29	42	28	47	24	69	31	47	24	51	29	36	16	51	29	36	16	49	25		
9.	42	39	41	21	43	35	42	29	41	28	49	29	59	31	40	26	41	29	37	20	49	29	37	20	49	20		
10.	46	34	49	17	51	34	49	30	42	26	47	21	53	33	44	24	44	28	40	20	49	28	40	20	49	20		
11.	57	31	47	20	58	35	58	34	52	32	53	30	64	29	54	30	56	30	47	30	56	30	47	30	56	30		
12.	53	29	49	23	56	38	54	34	51	36	57	28	61	30	54	31	54	36	55	30	54	36	55	30	54	30		
13.	63	40	48	32	72	44	63	41	51	37	53	40	58	39	58	34	60	39	49	34	60	39	49	34	59	34		
14.	49	27	37	21	48	35	50	29	37	27	46	27	57	24	39	23	49	28	35	25	57	28	35	25	57	25		
15.	51	21	42	14	46	28	46	22	47	21	50	19	46	18	48	18	48	24	46	20	50	24	46	20	50	20		
16.	68	40	.....	63	37	67	33	59	36	63	37	69	25	60	32	63	34	55	31	63	34	55	31	63	31		
17.	67	32	.....	68	48	63	35	61	33	63	32	70	33	66	30	65	38	59	28	65	38	59	28	65	28		
18.	71	41	.....	39	68	49	74	44	70	32	74	43	77	36	71	35	70	43	58	30	70	43	58	30	70	30	
19.	71	49	68	40	63	49	71	48	63	47	73	44	76	38	70	48	70	47	73	40	70	47	73	40	70	30		
20.	68	48	43	34	72	51	74	51	63	34	67	47	81	48	65	37	66	37	63	42	66	37	63	42	66	32		
21.	70	33	62	30	63	46	70	34	67	29	71	28	83	30	69	28	68	32	66	27	68	32	66	27	68	27		
22.	83	57	68	40	89	55	75	53	77	43	89	51	81	42	78	50	80	53	73	46	80	53	73	46	80	46		
23.	88	59	76	36	86	62	86	59	84	37	88	43	90	56	85	44	89	45	80	34	89	45	80	34	89	34		
24.	81	53	83	53	87	66	87	61	79	57	82	55	90	55	89	51	84	59	76	56	84	59	76	56	84	56		
25.	81	41	68	48	78	61	83	55	78	46	81	40	85	56	79	40	79	52	77	43	79	52	77	43	79	43		
26.	83	69	72	47	84	60	75	56	74	52	75	51	78	53	74	51	74	51	76	50	78	51	76	50	78	50		
27.	84	64	82	59	84	61	85	59	83	53	82	55	90	54	81	56	84	58	80	52	84	58	80	52	84	52		
28.	85	61	83	48	85	64	85	58	82	49	84	45	89	56	83	49	85	59	80	45	85	59	80	45	85	45		
29.	81	61	77	56	78	66	78	58	82	59	82	57	84	56	81	61	79	60	84	58	81	60	84	58	81	58		
30.	72	47	74	57	74	61	77	55	75	46	71	51	89	61	76	46	78	48	72	50	78	48	72	50	78	50		
31.	62	42	69	42	62	54	65	44	63	43	67	38	65	48	62	41	63	42	61	40	63	42	61	40	63	40		
Means.	66.8	41.0	53.1 ^a	33.8 ^b	63.3	48.4	67.1	42.2	61.1	37.5	65.1	37.8	71.3	40.2	63.0	36.6	61.9	40.8	57.8	34.3	66.8	41.0	53.1 ^a	33.8 ^b	63.3	48.4		